MIDWEST FLOODS of 2008 IN IOWA & WISCONSIN

# C Acronyms and Glossary of Terms

## Acronyms

### A

| | |
|---|---|
| **ASCE** | American Society of Civil Engineers |

### B

| | |
|---|---|
| **BFE** | Base Flood Elevation |

### C

| | |
|---|---|
| **CBC** | Commercial Building Code |
| **CEO** | Chief Executive Officer |
| **CFR** | Code of Federal Regulations |
| **cfs** | cubic feet per second |
| **CIS** | Community Information System |
| **CMU** | concrete masonry unit |

**CRPD** Cedar Rapids Police Department

**CRS** Community Rating System

**CT** Computed Tomography

## D

**DHS** Department of Homeland Security

**DMA 2000** Disaster Mitigation Act of 2000

**DNR** Department of Natural Resources

## E

**EO** Executive Order

**EOC** Emergency Operations Center

**ESC** Education Services Center

## F

**FEMA** Federal Emergency Management Agency

**FIRM** Flood Insurance Rate Map

**FIS** Flood Insurance Study

**FMA** Flood Mitigation Assistance

**FY** Fiscal Year

## G

**GIS** geographic information system

## H

**HMA** Hazard Mitigation Assistance

**HMGP** Hazard Mitigation Grant Program

# I

**IATL** Iowa Advanced Technology Labs

**IBC** International Building Code

**IBHS** Institute for Business and Home Safety

**ICC** International Code Council

**I-Codes** IBC, IRC, and the IEBC

**IEBC** International Existing Building Code

**IMU** Iowa Memorial Union

**IRC** International Residential Code

# J

**JFO** Joint Field Office

# L

**LOMR** Letter of Map Revision

**LOMR-F** Letter of Map Revision Based on Fill

# M

**MAT** Mitigation Assessment Team

**MGD** million gallons per day

**MRI** Magnetic Resonance Imaging

# N

**NFIA** National Flood Insurance Act

**NFIP** National Flood Insurance Program

**NOAA** National Oceanic and Atmospheric Administration

**NWS** National Weather Service

## O

**ONA** Other Needs Assistance

## P

**PA** Public Assistance

**PDA** Preliminary Damage Assessment

**PDM** Pre-Disaster Mitigation

**PNP** Private Nonprofit

## R

**RFC** Repetitive Flood Claims

**RSDE** Residential Substantial Damage Estimate

## S

**SFHA** Special Flood Hazard Area

**SOI** Secretary of the Interior

**SRL** Severe Repetitive Loss

## T

**TB** Technical Bulletin

## U

**UBC** Uniform Building Code

**UDC** Uniform Dwelling Code

**USACE** U.S. Army Corps of Engineers

**USGS** U.S. Geological Survey

| | |
|---|---|
| **UST** | underground storage tank |
| **UW** | University of Wisconsin |

## V

| | |
|---|---|
| **VFD** | Variable Frequency Drives |

## W

| | |
|---|---|
| **WWTF** | Wastewater Treatment Facility |

## Glossary of Terms

**100-year flood –** The flood elevation that has a 1-percent chance of being equaled or exceeded each year.

**500-year flood –** The flood elevation that has a 0.2-percent chance of being equaled or exceeded each year.

**ASCE 7 –** National design standard issued by the American Society of Civil Engineers, *Minimum Design Loads for Buildings and Other Structures*, which gives current requirements for dead, live, soil, flood, wind, snow, rain, ice, and earthquake loads, and their combinations, suitable for inclusion in building codes and other documents.

**ASCE 24 –** National design standard issued by the American Society of Civil Engineers, *Flood Resistant Design and Construction*, which outlines the requirements for flood resistant design and construction of structures in flood hazard areas.

**Base Flood Elevation (BFE) –** Elevation of the 1-percent-annual-chance flood. This elevation is the basis of the insurance and floodplain management requirements of the NFIP.

**Berm –** A small levee, typically built from fill dirt.

**Capillary action –** Commonly referred to as "wicking," capillary action is the process by which water in liquid form climbs upward through materials in opposition to the force of gravity.

**cfs –** Cubic feet per second, the unit by which discharges are measured (a cubic foot of water is about 7.5 gallons).

**Closed foundation –** Structure foundation that is enclosed on all sides (e.g., stem wall, basement, or crawl space) that is permanently closed to floodwaters.

**Continuous load path –** A load path is the route taken by a force as it makes its way through a structure. When a building has a continuous load path, the force is eventually transferred to and resisted by the ground. A continuous load path usually requires the use of metal connectors, fasteners (such as nails and screws), and strong wall design.

**Corbel –** a piece of stone or extension of concrete jutting out of a wall to carry any superincumbent weight.

**Critical and essential facilities –** Facilities that, if damaged, would present an immediate threat to life, public health, and safety as defined by ASCE 7. Critical and essential facilities include, but are not limited to, hospitals, emergency operations centers, water systems, and utilities.

**Crest –** The peak stage or elevation reached or expected to be reached by the floodwaters of a specific flood at a given location.

**Dam –** Any artificial barrier that impounds or diverts water and that: (1) is 25 feet or more in height from the natural bed of the stream or watercourse measured at the downstream toe of the barrier or from the lowest elevation of the outside limit of the barrier if it is not across a stream channel or watercourse, to the maximum water storage elevation or (2) has an impounding capacity at maximum water storage elevation of 50 acre-feet or more.

**Design flood event –** The greater of the following two flood events: (1) the base flood, affecting those areas identified as SFHAs on a community's FIRM; or (2) the flood corresponding to the area designated as a flood hazard area on a community's flood hazard map or otherwise legally designated.

**Erosion –** Process by which floodwaters lower the ground surface in an area by removing upper layers of soil.

**Executive Order 11988 –** Requires federal agencies to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. In accomplishing this objective, "each agency shall provide leadership and shall take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health, and welfare, and to restore and preserve the natural and beneficial values served by flood plains in carrying out its responsibilities" for the following actions: (1) acquiring, managing, and disposing of federal lands and facilities; (2) providing federally-undertaken, financed, or assisted construction and improvements; and (3) conducting federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulation, and licensing activities.

**Fetch –** The distance along open water or land over which the wind blows.

**Floodborne debris impact –** Floodwater moving at a moderate or high velocity can carry floodborne debris that can impact buildings and damage walls and foundations.

**Floodway fringe –** The portion of the SFHA that is outside of the floodway.

**Flood gauge/gage –** An instrument that measures/monitors the height of floodwater at a given location.

**Flood Insurance Rate Map –** An official map of a community, on which FEMA has delineated both the SFHAs and the risk premium zones applicable to the community.

**Floodwall –** A long, narrow concrete or masonry wall built to protect land from flooding.

**Floodway –** The channel of a river or other watercourse and that portion of the adjacent floodplain that must remain unobstructed to permit passage of the base flood without cumulatively increasing the water surface elevation more than a designated height (usually 1 foot).

**Freeboard –** The height above the base flood added to a structure to reduce the potential for flooding. The increased elevation of a building above the minimum design flood level to provide additional protection for flood levels higher than the 1-percent-annual-chance flood level and to compensate for inherent inaccuracies in flood hazard mapping.

**High velocity flow –** Typically comprised of floodwaters moving faster than 5 feet per second.

**Hydrodynamic force –** The force of moving water, including the impact of debris and high velocities.

**Hydrostatic force –** The pressure put on a structure by the weight of standing water. The deeper the water, the more it weighs and the greater the hydrostatic pressure.

**Levee –** A manmade structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control, or divert the flow of water so as to provide protection from temporary flooding.

**Loads –** Forces or other actions that result from the weight of all building materials, occupants, and their possessions; environmental effects; differential movement; and restrained dimensional changes. Permanent loads are those in which variations over time are rare or of small magnitude. All other loads are variable loads.

**Open foundation –** Structure foundation elevated on piles, walls, or other system that is permanently open to floodwaters.

**Performance-Based Design –** A design methodology that allows a designer to work with an owner to achieve an acceptable level of risk.

**Pier foundation –** Vertical support member of masonry or cast-in-place concrete that is designed and constructed to function as an independent structural element in supporting and transmitting both building loads and environmental loads to the ground. Typical pier foundations are constructed on footings.

**Reinforced concrete –** Concrete with steel mesh or bars embedded in it to increase its tensile strength.

**Riverine –** Of or produced by a river. Riverine floodplains have readily identifiable channels.

**Seepage –** The process of floodwater flowing slowly into or out of something through small holes.

**Slab-on-grade foundation –** Type of foundation in which the lowest floor of the house is formed by a concrete slab that sits directly on the ground.

**Special Flood Hazard Area –** Portion of the floodplain subject to inundation by the base flood.

**Stafford Act –** Robert T. Stafford Disaster Relief and Emergency Assistance Act, PL 100-707, signed into law November 23, 1988; amended the Disaster Relief Act of 1974, PL 93-288. This Act constitutes the statutory authority for most federal disaster response activities especially as they pertain to FEMA and FEMA programs.

**Steel moment frame –** In steel moment frame buildings, the ends of the beams are rigidly joined to the columns so that the buildings can resist lateral wind forces without the assistance of additional braces or walls.

**Stem wall foundation –** A type of foundation that uses masonry block and is reinforced with steel and concrete. The wall is constructed on a concrete footing, back-filled with dirt, and compacted, and the slab is then poured on top.

**Stillwater –** A rise in the normal level of a water body.